BORISEVICH, N.A.; GRUZINSKIY, V.V.

Effect of temperature, magnitude of the exciting quanta, and foreign gases on the structural electron spectra of molecules in vapors. Dokl. AN BSSR 7 no.5:309-312 My '63. (MIRA 16:12)

1. Institut fiziki AN BSSR. Predstavleno akademikom AN BSSR B.I. Stepanovym.

45075

S/051/63/014/001/007/031
E039/E120

24.3500

AUTHORS: Borisevich, N.A., and Gruzinskiy, V.V.

TITLE: Study of the excited states of the vapour of complex molecules on the basis of the universal relation between fluorescence and absorption spectra. I.

PERIODICAL: Optika i spektroskopiya, v.14, no.1, 1963, 39-44

TEXT: The fluorescence of the vapour of three different groups of organic compounds is investigated and analysed by means of the above universal relation. The dependence of the excitation temperature on the frequency of the exciting light ν_B is studied for: 3,6-tetramethyldiamino-, 3,6-diamino-, 3-aminophthalimide, and 1-aminoanthraquinone. It is shown that the frequency of electron transition ν_{el} is equal to the frequency for which $\Delta T = 0$ in the region of the maximum of the absorption band ($\nu_{el} = 22\,750\ cm^{-1}$). $\Delta T = T^* - T$ where T^* is the excitation temperature and T the temperature at which the experiment is carried out. When $\nu_B < \nu_{el}$, $\Delta T < 0$, and at $\nu_B > \nu_{el}$ then $\Delta T > 0$, i.e. the excited molecules possess an excess vibrational energy. In the case of 3,6-tetramethyldiaminophthalimide, ΔT

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is independent of the temperature T at which the experiment is conducted, while for 3,6-diaminophthalimide ΔT decreases with increase in T for all observed values of ν_B. The fluorescence and absorption spectra of perylene are also examined at temperatures of 513, 633 and 713 °K. With increasing temperature the spectrum shows strong broadening.

The function $F_\nu = \ln \frac{W_{\nu, T}}{\varepsilon_{\nu, T}} - 3 \ln \nu$ remains linear over the range of temperatures studied. $W_{\nu, T}$ is the luminescent power at temperature T, and $\varepsilon_{\nu, T}$ is the absorption coefficient at temperature T. This form of the universal relation can also be used for studying the excitation of molecules possessing spectral structure.

There are 2 figures and 1 table.

SUBMITTED: December 6, 1961

Card 2/2

S/051/63/014/003/014/019
E039/E120

AUTHORS: Tolkachev, V.A., and Borisevich, N.A.

TITLE: On the potential barrier of radiationless transitions of molecules in the vapor phase

PERIODICAL: Optika i spektroskopiya, v.14, no.3, 1963, 430-433

TEXT: By using the results of their earlier work, the authors make a stricter approach to the question of finding the potential barrier for radiationless transitions. An expression for the quantum yield γ from the fluorescence of molecules of a rarefied vapor is obtained:

$$\gamma = \frac{\overline{E}_d^* - \overline{E}_1^*}{\overline{E}_d^* - \overline{E}_f^*} \qquad (11)$$

where: $\overline{E}_1^*$, $\overline{E}_d^*$ and $\overline{E}_f^*$ are operators and functions of the energy level E; Einstein's coefficient $B(E, \nu)$ and $g(E)$ the statistical weight. When $\nu = \nu_{el}$,

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$$E_{\alpha}^{*} = \bar{E}_{d}^{*} - \bar{E}_{f}^{*} \qquad (14)$$

ν_{el} is the frequency of electron transitions. Values of E_{α}^{*}, $\bar{E}_{d}^{*} - \bar{E}_{f}^{*}$ and $\bar{E}_{d}^{*} - \bar{E}_{1}^{*}$ are calculated for a number of different wavelengths of exciting radiation λ_b for the following materials: 3,6 - tetramethyldiaminophthalimide; 3 - dimethylamino - 6 - aminophthalimide; 3 - aminophthalimide; 3,6 - diaminophthalimide; 1 - aminoanthraquinone; β - naphthylamine. If the temperature change is not greater than 160° the difference $\bar{E}_{d}^{\wedge} - \bar{E}_{f}^{\wedge}$ is only weakly dependent on temperature. For all the materials except 3,6 - diaminophthalimide the difference $\bar{E}_{d}^{\wedge} - \bar{E}_{f}^{\wedge}$ increases noticeably with increase in λ_b. The value of $\bar{E}_{d}^{\wedge} - \bar{E}_{1}^{\wedge}$ is small. This means that for the given vibrational temperature T_{vib}^{*} the average energy of excitation of the molecule is actually near to the average energy of a molecule undergoing radiationless transitions. $\bar{E}_{d}^{\wedge} - \bar{E}_{f}^{\wedge}$ and E_{α}^{*} at comparatively high T_{vib}^{*} do

not correspond strictly to a potential barrier, but are of the same order as the vibrational quanta. Investigating the temperature dependence of the fluorescent yield of solutions of anthracene derivatives and other compounds, two types of radiationless transitions were isolated: depending on temperature (connected with the traversal of the hypersurface of the singlet state), and not depending on temperature (connected with transitions in the triplet state). Calculation of the activation energy of radiationless transitions of the first type also gives values of the order of the vibrational quanta.
There is 1 table.

SUBMITTED: August 15, 1962

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24.3200

44939

S/048/63/027/001/012/043
B163/B180

AUTHORS: Gurinovich, I. F., and Borisevich, N. A.

TITLE: Infrared dispersion filters

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 1, 1963, 26 - 29

TEXT: The transmissivity of a number of dry powders to infrared radiation was measured in a UR - 10 infrared spectrometer as a function of the wave number between 1 and 15 microns. There is a transmission maximum for the wavelength at which the refractive index of the powder particles is equal to that of the surrounding air (Christiansen effect). The results are shown in the table. In the maximum and half-widths of the pass band the transmissivity of this kind of Christiansen filter increases as the particle size and layer thickness decreases. As particle size increases the position of the pass band maximum shifts to slightly longer wavelengths. Between 20 and 70°C the position of the maximum is unchanged but the transmissivity decreases slightly. This paper was presented at the 14th Conference on Spectroscopy in Gor'kiy, July 5-12, 1961. There are 3 figures.

Card 1/2

Infrared dispersion filters

S/048/63/027/001/012/043
B163/B180

ASSOCIATION: Institut fiziki Akademii nauk BSSR (Institute of Physics of the Academy of Sciences BSSR)

Legend of Table: (1) Dispersive medium, (2) Half widths of pass band, (3) Transmissivity in the maximum, (4) Particle size, (5) Thickness of layer, (6) Air.

Диспергирующая среда (1)	λ_0, μ	ν, $см^{-1}$	Полуширина полосы пропускания, $см^{-1}$ (2)	Пропускание в макс. τ, % (3)	Размер частиц, мм (4)	Толщина слоя, мм (5)
$NaNO_3$ — воздух	6,5	1540	—	18	—	—
$Ba(NO_3)_2$ — » (6)	6,65	1500	100	33	0,03	0,03
SiO_2 — »	7,2	1385	150	40	0,05	0,1
$PbSO_4$ — »	7,6	1320	—	22	—	—
$SrSO_4$ — »	7,7	1300	85	40	0,02	0,02
$MnSO_3$ — »	7,72	1295	180	38	0,03	0,03
$CaSO_4$ — »	7,8	1280	—	22	—	—
Na_2SO_4 — »	7,75	1290	120	58	0,03	0,03
$CuSO_4$ — »	8,2	1220	—	13	—	—
LiF — »	10,85	920	200	68	0,05—0,063	0,1

Card 2/2

BORISEVICH, N.A.

Some characteristics of the fluorescence of vapors of complex molecules. Izv.AN SSSR.Ser.fiz. 27 no.4:562-569 Ap '63. (MIRA 16:4)

(Organic compounds) (Fluorimetry)

KOROTKEVICH, V.T.; ZELINSKIY, V.V.; BORISEVICH, N.A.

Electron spectra of vapors of N-methylphthalimides. Izv.AN SSSR. Ser.fiz. 27 no.4:576-579 Ap '63. (MIRA 16:4)
(Phthalimides—Spectra)

PETROVICH, P.I.; BORISEVICH, N.A.

Fluorescence spectra and quantum yields of certain coumarin derivatives. Izv. AN SSSR Ser. fiz. 27 no.5:703-707 My '63. (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut organicheskikh poluproduktov i krasiteley i Institut fiziki Akademii nauk BSSR.
(Coumarin--Spectra)
(Quantum theory)

MAKAREVICH, N.I.; BORISEVICH, N.A.

Method of pressing samples for obtaining infrared spectra. Zav.lab. 29 no.8:941-943 '63. (MIRA 16:9)

1. Institut fiziki AN BSSR.
(Spectrum, Infrared)

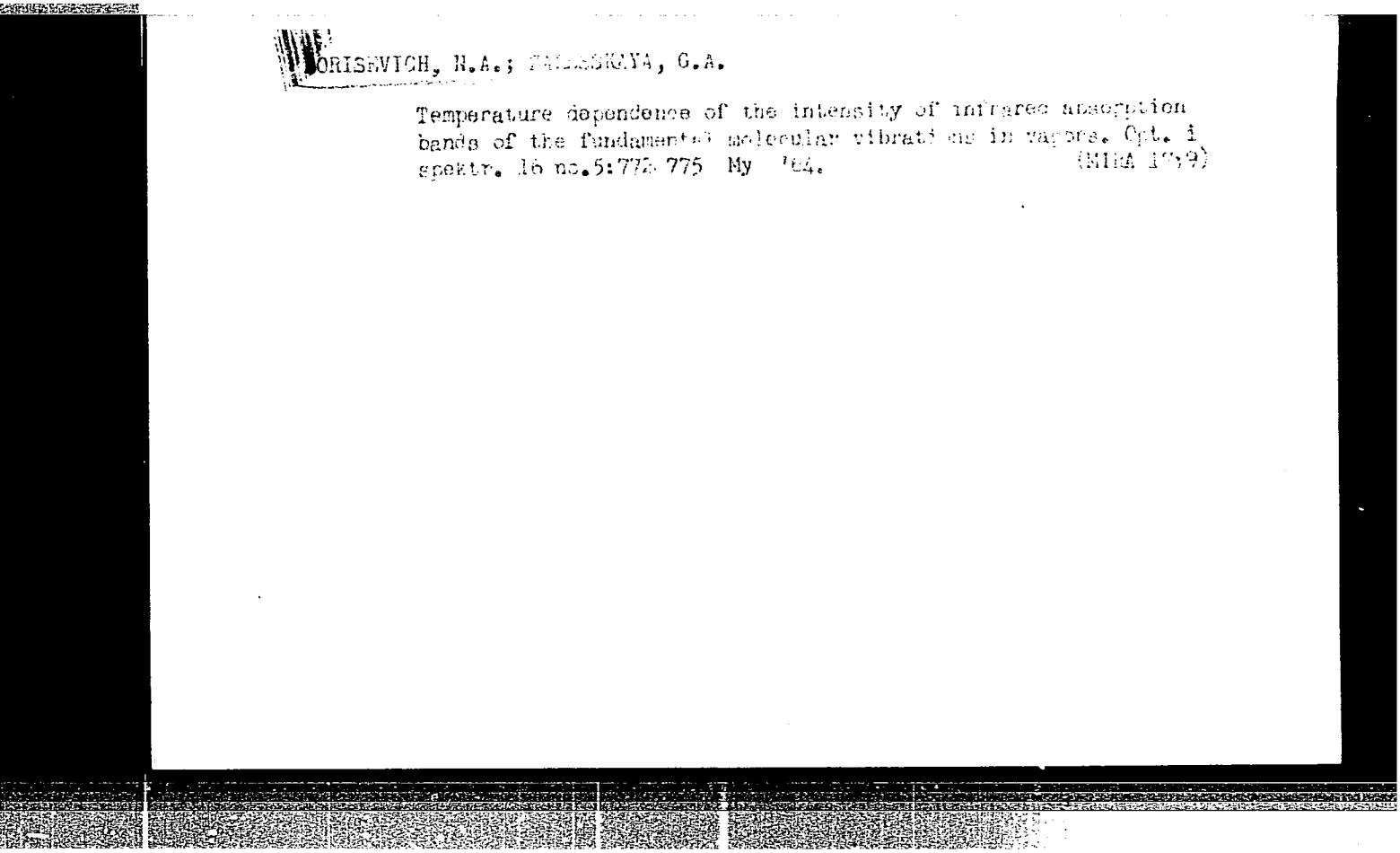
BORISEVICH, N.A.

Study on excited states of molecules in vapors by means of universal correlations. Acta phys chem Szeged 10 no.1/2:9-13 '64.

1. Institut fiziki Akademii nauk BSSR, Minsk.

BORISEVICH, N.A.; GRUZINSKIY, V.V.; TOLKACHEV, V.A.

Anti-Stokes fluorescence of molecules. Opt. i spektr. 16 no.1: 171-174 Ja '64. (MIRA 17:3)



ORISENVICH, N.A.; [illegible], G.A.

Temperature dependence of the intensity of infrared absorption bands of the fundamental molecular vibrations in vapors. Opt. i spektr. 16 no.5:772-775 My '64. (MIRA 17:9)

TOLKACHEV, V.A.; BORISEVICH, N.A.

Effective excitation energy of molecules of rarefied vapors in various electron absorption bands. Opt. i spektr. 18 no.3: 388-395 Mr '65. (MIRA 18:5)

APANASEVICH, P.A.; BORISEVICH, N.A. VOLOD'KO, L.V.; GLADCHENKO, L.F.; GRIBKOVSKIY, V.P.; GURINOVICH, G.P.; IVANOV, A.P.; KUZNETSOVA, V.V.; PIKULIK, L.G.; PILIPOVICH, V.A.; RUBANOV, A.S.; RUBANOV, V.S.; SAMSON, A.M.; SARZHEVSKIY, A.M.; SOLOV'YEV, K.N.; UMREYKO, D.S.; KHAPALYUK, A.P.; YEL'YASHEVICH, M.A., akademik, red.

[Interaction between nonequilibrium radiation and matter] Vzaimodeistvie neravnovesnogo izlucheniia s veshchestvom. Minsk, Nauka i tekhnika, 1965. 223 p. (MIRA 18:3)

1. Akademiya nauk SSSR. Institut fiziki. Akademiya nauk Belorusskoy SSR (for Yel'yashevich).

L 07078-67 EWT(l)/EWT(m)/EWP(l) RM

ACC NR: AP6025952 SOURCE CODE: UR/0051/66/021/001/0036/0044

AUTHOR: Borisevich, N. A.; Tolkachev, V. A.

ORG: none

TITLE: Dependence of the quantum fluorescence output of molecules in rarefied vapors on the energy of the exciting quantum in various electron absorption bands

SOURCE: Optika i spektroskopiya, v. 21, no. 1, 1966, 36-44

TOPIC TAGS: quantum yield, absorption band, fluorescence, anthracene

ABSTRACT: A study is made of the dependence of the absolute quantum fluorescence of vapor 3,6-tetramethyldiamino- and 3,6-diaminophthalimides and anthraquinone on the frequency of the excitation radiation in various electron bands. The different dependence of the quantum output on the reserve of vibrational energy in these bands is also considered. The absolute quanta of fluorescence output were measured by a method developed earlier. The standards for measurement were alcohol solutions of 3-amino- and 3,6--tetramethyldiaminophthalimide and crystals of anthracene. The measurements agree well with the data of earlier work except in the extreme long-wave region of the spectrum, which includes anti-Stokes excitation. The results for output and absorption spectra are plotted in curves. Also plotted is the effect of the excitation quantum energy and temperature on the quantum fluorescence output, as well as the dependence of the lat-

Card 1/2 UDC: 535.371(206.3)

L 07078-67
ACC NR: AP6025952

ter on the effective excitation energy. The dependence of the probability of radiationless transitions on the vibrational temperature of the excited vapor molecules in various electron absorption bands is shown. Orig. art. has: 4 figures, 3 formulas.

SUB CODE: 20/ SUBM DATE: 27Jun64/ ORIG REF: 017/ OTH REF: 003

Card 2/2 LC

L 45164-66 EWT(1)/EEC(k)-2/T/EWP(k) IJP(c) WG

ACC NR: AP6027898 SOURCE CODE: UR/0368/66/005/001/0045/0050

55
54
B

AUTHOR: Dubovik, M. V.; Smirnov, A. Ya.; Borisevich, N. A.

ORG: none

TITLE: Three-pulse generation of a helium-neon laser 25

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 1, 1966, 45-50

TOPIC TAGS: gaseous STATE laser, helium neon laser, LASER PULSATION, HELIUM, NEON

ABSTRACT: Three generation pulses were obtained in an He-Ne mixture during one excitation pulse. An investigation is made of the dependence of the parameters of these pulses on the amplitude and duration of the excitation pulse and the partial and total pressure of the mixture. The relationship between generation pulses, the structure of the laser beam spot, and the distribution of the discharge brightness along the diameter of the tube is established. The three-pulse generation is studied from the viewpoint of the inverse population mechanisms of the working 2s-2p levels. The authors observed, during a single excitation pulse, three generation pulses appearing correspondingly during the excitation pulse (the first generation pulse), immediately after it (the second), and far into the afterglow (the third) at 11523 Å.

Card 1/2 UDC: 621.375.9

L 45164-66
ACC NR: AP6027898

The investigations were performed in two gas-discharge tubes, 16 and 28 mm in diameter, with internal electrodes and Brewster angle windows. The authors express their gratitude to A. P. Voytovich for participation in the discussion of the results of this work. Orig. art. has: 3 formulas and 2 figures. [26]

SUB CODE: 20/ SUBM DATE: 17Feb66/ ORIG REF: 004/ OTH REF: 001/ ATD PRESS: 5081

Card 2/2

L 14975-66 EWT(1) IPJ(c)

ACC NR: AP6004087 SOURCE CODE: UR/0020/66/166/002/0313/0316

AUTHOR: Borisevich, N. A. 44 B

ORG: Institute of Physics, Academy of Sciences BSSR (Institut fiziki Akademii nauk SSSR)

TITLE: Luminescence yield and persistence in molecules as functions of the luminescence and absorption spectra 21,44,55

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 313-316

TOPIC TAGS: absorption spectrum, luminescence spectrum, quantum yield

ABSTRACT: The author derives a general expression which gives the absorption and luminescence spectra of molecules in terms of the yield and persistence of luminescence and also discusses various consequences of this expression. The formula derived in this paper is true for both rarefied vapor and for condensed media. In the case of rarefied vapor, the temperature of the excited molecules is generally unequaled to the experimental temperature and depends on the energy of the exciting quantum. It is found that if the luminescence spectrum is independent of the

Card 1/2 UDC: 535.37 : 535.34

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L 14975-66
ACC NR: AP6004087

frequency of the exciting light and the universal relationship between luminescence and absorption spectra holds then the ratio between the luminescence persistence and quantum yield should be a constant. However, in spite of the fact that the luminescence spectrum in some solutions is independent of the exciting light, the universal relationship between absorption and luminescence spectra does not hold in the long-wave (anti-Stokes) region. Orig. art. has: 12 formulas.

SUB CODE: 20/ SUBM DATE: 12May65/ ORIG REF: 016/ OTH REF: 001

Card 2/2 vmb

VOYTOVICH, A.P. [Vaitovich, A.P.]; PRIMA, A.M. [Pryma, A.M.]; BORISEVICH, N.A. [Barysevich, M.A.]

Determining the optical constants of synthetic quartz in the infrared spectral region. Vestsi AN BSSR. Ser. fiz.-tekh. nav. no.2:39-43 '64. (MIRA 18:1)

BORISEVICH, N. V.

Geography and Geology

Requirements of industry as to the quality of mineral raw materials. Handbook for geologists--Moskva, Gos. izd-vo geologicheskoi lit-ry Komiteta po delam geologii pri SNK SSSR, No. 26, Nickel, 1947 .

9. Monthly List of Russian Accessions, Library of Congress, October 1953 Unclassified.

ROZIN, M.S.; ORLOVA, Ye.V.; PERVUSHNIN, S.A.; SYROVA, Ye.I.; BORISEVICH, N.V., redaktor; VASYUTIN, V.F., redaktor; SMIRNOVA, V.I., redaktor; SEMENOVA, M.V., redaktor; BORISOV, A.S., tekhnicheskikh redaktor.

[Mineral resources of the United States] Mineral'nye resursy Soedinennykh Shtatov Ameriki. Moskva, Gos. izd-vo geol. lit-ry, 1952. 407 p. (Mineral'nye resursy zarubezhnykh stran, no. 20). (MLRA 9:5)

(United States--Mines and mineral resources)

BORISEVICH, N.V.; KRASIL'NIKOV, L.K., nauchnyy red.; MATIS, T.I., red. izd-va; IYERUSALIMSKAYA, Ye.S., tekhn. red.

[Industry's requirements as to the quality of mineral raw materials; handbook for geologists] Trebovaniia promyshlennosti k kachestvu mineral'nogo syr'ia; spravochnik dlia geologov. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr. No.26 [Nickel] Nikel'. Nauch. red. Krasil'nikov. Izd.2., perer. 1961. 81 p. (MIRA 15:3)

1. Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut mineral'nogo syr'ya.

(Nickel)

ZAYTSEV, B.M.; VAYNER, A.S.; BELYAYEVSKIY, I.A.; SAPIRO, M.M.; BORISEVICH, S.F.

Heat economy at the Leningrad Hydrolysis Plant. Gidroliz. i lesokhim. prom. 10 no.7:18-20 '57. (MIRA 10:12)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut godroliznoy i sul'fitnospirtovoy promyshlennosti (for Zaytsev, Vayner) 2.Leningradskiy gidroliznyy zavod (for Belyayevskiy, Sapiro, Borisevich).

(Leningrad--Hydrolysis)

YEFIMOV, V.A.; MOLCHANOVA, M.N.; GANTSEVICH, A.I.; ISAYEVA, M.M.; BELYAYEVSKIY, I.A.; SAPIRO, M.M.; BORISEVICH, S.F.; BARANOVSKAYA, L.V.

Semicontinuous method of wood hydrolysis. Gidroliz. i lesokhim. prom. 15 no.1:19-21 '62. (MIRA 18:3)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirtovoy promyshlennosti (for Yefimov, Molchanova, Gantsevich, Isayeva). 2. Leningradskiy gidroliznyy zavod (for Belyayevskiy, Sapiro, Borisevich, Baranovskaya).

BORISEVICH, S.F.

Introduction of the hydrolysis process with recycling of the tail fraction. Gidroliz.i lesokhim.prom. 13 no.6:19-20 '60.
(MIRA 13:9)

1. Uchenyy sekretar' Soveta nauchno-tekhnicheskogo obshchestva Leningradskogo gidroliznogo zavoda.
(Leningrad--Hydrolysis)

BORISEVICH, S.P., inzhener.

Small trash rakes made from round rods suitable for being heated by electricity. Gidr.stroi. 22 no.6:22-23 Je '53. (MLRA 6:6)
(Hydroelectric power stations)

BORISEVICH, S.P.

Immersion of repair work shields in flowing water. Gidr.stroi. 23 no.8:39 '54. (MLRA 8:1)
(Hydraulic engineering)

BORISEVICH, S.P., inzh.

Action of pivot devices in double-walled sluice gates. Rech. transp. 17 no.11:39-42 N '58. (MIRA 11:12)
(Gates, Hydraulic)

BORISEVICH, Sofroniy Prokof'yevich; GUROVICH, I.Ya., red.; ZHITNIKOVA, O.S., tekhn. red.

[Double-wing sluice gates] Dvustvorchatye vorota shliuzov. Moskva, Gos. energ. izd-vo, 1961. 144 p. (MIRA 14:7)
(Sluice gates)

BORISEVICH, S., inzh.

Mechanical equipment of navigation locks on the Volga-Baltic Sea Waterway. Rech. transp. 23 no.7:27-29 Jl '64. (MIRA 17:10)

1. Gidrostal'proyekt.

LYZHENKO, I.G., inzh.; BORISEVICH, V.I.; VAYSINA, A.M.

Over-all processing of gravel mixtures. Avt.dor. 24 no.6:19 Je '61. (MIRA 14:7)

(Ukraine—Gravel)

BORISEVICH, V.K.

RT-1247 (The raw materials base of natural fuel gases in the USSR) Syr'evaia baza prirodnykh goriuchikh gazov v SSSR. Pages 54-63 from:
GEOLOGICHESKAIA IZUCHENNOST' I MINERAL'NO-SYR'EVAIA BAZA SSSR. I.M.Bubkin, ed.
Moscow-Lenningrad, 1939.

LOKSHIN, G. M., BORISEVICH, V. M.

Omsk Province - Nurseries (Horticulture)

Work practice of fruit growers of Omsk Province. Sad i og.,m no. 7, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, _____1953. Unclassified.

Borisevich, V. N. (Eng.) and Avrutskiy, G. I. (Eng.)

XX. "Mechanization of Dynamic Balancing of Instrument and Power-unit Rotors," Automation and Mechanization of Production Processes in Instrument Manufacturing, Moscow, Mashgiz, 1958. 591 p.

PURPOSE: This book is intended for engineers, technicians, and scientific personnel concerned with mechanization and automation of production processes in instrument manufacturing, and for students and teachers of this subject in vuzes.

BORISEVICH, Viktor Nikolayevich; NECHAYEV, A., retsenzent; YELISEYEV, M.S., inzh., red.; GORDEYEVA, L.P., tekhn. red.

[Balancing of the armatures of small electric machinery] Balansirovka iakorei malogabaritnykh elektricheskikh mashin. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1961. 116 p. (MIRA 14:12)

(Electric machinery)

BORISEVICH, G. F.

Mosaic of Sugar Beet Leaves, in Mosaic Diseases of Sugar Beets, a Collection of Articles, Publishing House of the Variety-Seed Administration of the State All Union Association of Sugar Industries, Kiev, 1930, pp. 141-160.
464.04 Sa2

SO SIRA SI 90-53, 15 December 1953

BORISEVICH, G. F.

Note on the Root Rot of the Sugar Beet Caused by Trichoderma koningi Oud., Nauchnye Zapiskipo Sakharnoi Promyshlennosti, Agronomisheskii Vypusk 23 no. 4-6, 1934, pp. 61-65. 65.9 K54A

SO - SIRA SI 90-53, 15 December 1953

BORISEVICH, S.F.

Our work experience. Gidroliz. i lesokhim. prom. 17 no.3:20-21 '64. (MIRA 17:9)

1. Leningradskiy gidroliznyy zavod.

BORISEVICH, V.A.

Determination of the real specific weight of free-flowing substances by a method which involves the use of an expressing force. Trudy Inst. energ. AN BSSR no.11:12-16 '60. (MIRA 14:9)
(Granular materials)

BORISEVICH, V.A.

Experimental study of the flow of a granular substance (sand) in vertical pipes. Trudy Inst. energ. AN BSSR no.11:17-26 '60.
(MIRA 14:9)

(Sand)

BORISEVICH, V.A.

Experimental investigation of the output by weight of a loose material (sand) during its gravitational outflow from vertical pipes through throttle devices. Inzh.-fiz.zhur. no.11:89-92 N '60. (MIRA 13:11)

1. Institut energetiki AN BSSR, Minsk.
(Pipe—Hydrodynamics) (Sand)

BORISEVICH, V.A.; MALYUKEVICH, V.I.

Investigation of the thermal coefficients of quartz sand as a function of temperature and porosity. Inzh.fiz.zhur. 4 no.7: 60-63 Jl '61. (MIRA 14:8)

1. Institut energetiki AN BSSR, Minsk.
(Quartz—Thermal properties)

BORISEVICH, V.N.

Unification and standardization of equipment in the instrument industry. Standartizatsiia 29 no. 11:46-48 B '65
(MIRA 19:1)

1. Direktor Vsesoyuznogo nauchno-issledovatel'skogo tekhnologicheskogo instituta priborostroyeniya.

EPSHTEYN, S.Ya.; GRISHIN, I.N.; BORISEVICH, Ye.B.

Suture of a heart wound with the patient in a terminal state.
Zdrav.Bel. 8 no.7:75 Jl '62. (MIRA 15:11)

1. Iz kafedry obshchey khirurgii (zav. - zasluzhennyy deyatel' nauki UkrSSR prof. T.Ye.Gnilorybov).
(HEART--WOUNDS AND INJURIES)

BORISEVICH, YE. S.

"Dual Friction Reduction Gear as a Speed Regulator of Phototape in the Oscillograph," Avtomatika i Telemekhanika, No. 5, 1948 under Bibliography of USSR Works on Automatic Regulations and Servomechanisms 1917-1947.

" A Portable Film Four-Ribbon Oscillograph PO-4," pp 67-76, Symposium of Articles and Lectures (which is No. 5 (132) in the series entitled "Works of the Geophysical Inst.," AS USSR Press, Moscow and Leningrad, 1949.

U-1442, 28 Aug 51

BORISEVICH, E. S.

USSR/Geophysics - Seismic Instruments 1952

"Recording Apparatus for Seismic Stations," E. S. Borisevich

"Trudy Geofiz Inst, Ak Nauk SSSR" No 14 (141), pp 53-68

Describes recording instruments installed at present at permanent seismic stations. Also describes some new models being manufd in the form of exptl instruments. Gives kinematic schemes and diagrams of the instruments.

230T67

BORISEVICH, Ye.S.

Gearbox for recording instruments. Trudy Geofiz.inst. no.20:81-87 '53. (MLRA 7:5)
(Oscillograph)

BORISEVICH, Ye. S. (Designer)

Author of letter to editors, "Concerning One Inexactness," in which he denies being the one who built the first Soviet night aerial camera, for which he was credited in the book, Nazemnoye fotografirovaniye Terrestrial Photography), by A. A. SYROV. SAFRONOV stated that his activity in the field of night aerial photography began after the first night aerial camera was in the production stage, and that this camera was the result of the work of the following persons: Col N. I. SHAUROV*, who suggested the idea; Engr-Col G. A. ISTOMIN* who, with Col Yu. G. MAKAROV* and Engr-Col S. I. PUZANOV*, prepared the first working model; and designers A. V. AL'SHEVSKIY and Ye. S. BORISEVICH, who worked out the first production model of the camera. (Krasnaya Zvezda, Moscow, 7 Jul 54)

SO: SUM No. 239, 13 Oct 1954

USSR/Electronics - Magneto-electric oscillographs

Card : 1/1

Authors : Borisevich, E. S., Cand. in Tech. Scs.

Title : Magneto-electric oscillographs

Periodical : Vest. AN SSSR, 24, Ed. 5, 51 - 55, May, 1954

Abstract : Various types of magneto-electric oscillators, designed and constructed by the Geophysical (previously Seismological) Institute of the Acad. of the USSR, are described. A table showing characteristics of 13 types of magneto-electric oscillographs is given. The "Etalon" factory in Riga mass produced the POB-12 type oscillographs. Illustrations.

Institution : ...

Submitted : ...

PALM, A.; BORISEVICH, Ye.S., [translator]; MARGULIS, U.Ya., redaktor; SHAPOVALOV, V.I., tekhnicheskiy redaktor.

[Recording instruments] Registriruiushchie samopishushchie pribory. Perevod s nemetskogo E.S.Borisevicha. Moskva, Izd-vo inostrannoi lit-ry, 1955. 272 p. (MIRA 8:4)
(Recording instruments)

60-29-1/14

AUTHORS: Zapol'skiy, K.I., Gal'perin, Ye.I., Borisevich, Ye. S.

TITLE: Mobile Experimental Low-frequency Seismic Stations (Opytnaya peredvizhnaya nizkochastotnaya seysmicheskaya stantsiya)

PERIODICAL: Trudy Geofizicheskogo instituta AN SSSR, 1955, Nr 29, pp. 3-10 (USSR)

ABSTRACT: The authors describe apparatus developed to investigate multichannel registration of near earthquakes in the frequency range of 1-25 cps. The station consists of a low-frequency, 12-channel seismic unit "ОГНС" mounted on a "TAZ-51" truck. Each channel consists of a seismograph, an amplifier and a galvanometer. The general characteristics of the filter-amplifier systems and auxiliary measuring and registering instruments are described in detail. Field experiments conducted in 1950 in the area of northern Tien Shan demonstrated the effectiveness of these stations. The station may also be used to register exploratory explosions. There are 7 figures and 4 references of which 3 are USSR and 1 English.

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Card 1/1

60-29-2/14

AUTHOR: Borisevich, Ye. S.

TITLE: Oscillograph for Movable Seismic Stations (Ostsillograf peredvizhnoy seysmicheskoy stantsii)

PERIODICAL: Trudy Geofizicheskogo instituta AN SSSR, 1955, Nr 29, pp. 11-19 (USSR)

ABSTRACT: The author describes a 12-channel magnetoelectric oscillograph developed by the Geophysical Institute (Geofizicheskiy institut) in 1950 for a movable experimental seismic station. A heavy-duty drive which operates the roller mechanism and a block of galvanometers with a general permanent U-shape manget made of "magniko" alloy, are, according to the author, used in an oscillograph for the first time. The oscillograms are recorded on a film moving at a rate of 2 and 25 mm/sec. The supply of electricity into the oscillograph is reduced to a minimum, which eliminates bulky accumulator batteries. The optical, kinematic and electrical systems, and the construction of the "ОПСС" oscillograph are described in detail. Field use of the oscillograph produced favorable results. The following personalities

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Oscillograph for Movable Seismic Stations

are mentioned: Gamburtsev, G.A., Academician; Zabelin, M.A., Engineer-designer and Lapovenko, K.A., Technician-designer. There are 6 figures.

AVAILABLE: Library of Congress

Card 2/2

60-29-3/14

AUTHOR: Borisevich, Ye. S.

TITLE: Magnetoelectric Oscillograph "OSB-1" (Magnitoelektricheskiy ostsillograf "OSB-1")

PERIODICAL: Trudy Geofizicheskogo instituta AN SSSR 1955, Nr 29, pp. 20-30 (USSR)

ABSTRACT: The author describes a new model portable multichannel magnetoelectric oscillograph developed by the Geophysical Institute (Geofizicheskiy institut) for continuous registration of slow processes. The oscillograph is equipped with highly sensitive low-frequency galvanometers with electromagnetic damping. The signal is transmitted onto photographic paper fitted on a medium size drum which rotates uniformly and displaces itself uniformly along the axis and is driven by a spring motor. The drum's rotation speed and the rate of its longitudinal displacement may be varied within certain limits. The "OSB-1" oscillograph is economical both in the expenditure of photographic paper and current consumption. The technical characteristics of the oscillograph, its kinematic and electrical schemes are described in detail. There are 8 figures and 5 references, all USSR.

AVAILABLE: Library of Congress

Card 1/1

60-29-5/14

AUTHOR: Borisevich, Ye. S.

TITLE: Simplified "UO-9" Oscillograph (Uproshchennyy ostsillograf "UO-9")

PERIODICAL: Trudy Geofizicheskogo instituta AN SSSR, 1955, Nr 29, pp. 39-48 (USSR)

ABSTRACT: The article describes a simplified portable 9-channel oscillograph, model "UO-9", used in geophysical investigations. The effect is registered on a film 12 cm. wide, moving at the rate of 0.25 to 4 mm/sec. A regulated spring drive, not an electric motor, winds the film; this eliminates interference from the oscillograph's electrical circuits. Since the power used does not exceed 5 watts, it is not necessary to have heavy accummulator batteries to feed the installation under field conditions. The oscillograph works without interruption for more than 5 hours. The optical, kinematic and electrical schemes are discussed in detail. There are 8 figures.

AVAILABLE: Library of Congress

Card 1/1

60-29-6/14

AUTHOR: Borisevich, Ye. S.

TITLE: New Mirror Galvanometers for Magnetoelectric Oscillographs (Novyye zerkal'nyye gal'vanometry k magnitoelektricheskim ostsillografam)

PERIODICAL: Trudy Geofizicheskogo instituta AN SSSR, 1955, Nr 29, pp. 49-56 (USSR)

ABSTRACT: The article describes a new type of mirror galvanometer, the model "Б" (Galvanometer Borisevich), developed by the author at the Geophysical Institute of the AN SSSR This type of galvanometer is used with the latest models of magnetoelectric oscillograph which are produced both on an experimental and production scale. A description of several types of "Б" galvanometers tested under field conditions is given. A magnetic system having a permanent "magniko" alloy magnet into which these galvanometers are set, is also described. There are 6 figures.

AVAILABLE: Library of Congress

Card 1/1

60-29-11/14

AUTHOR: Borisevich, Ye. S.

TITLE: Standardized Units for Magnetoelectric Oscillographs (Nekotoryye uzly magnitoelektricheskikh ostsillografov)

PERIODICAL: Trudy Geofizicheskogo instituta AN SSSR, 1955, Nr 29, pp. 80-88 (USSR)

ABSTRACT: The article describes the parts of magnetoelectric oscillographs used at the Geophysical Institute. These include galvanometers and their magnetic parts, the housing for velocity units, frames, illuminators, time recorders, spring motors, and velocity regulators. There are 7 figures and 7 references, all USSR.

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BORISEVICH, Ye.S.

Timing device used in magnetoelectric oscillographs. Prib.i tekh. eksp.no.2:143-145 S-O '56. (MLRA 10:2)

1. Geofizicheskiy institut AN SSSR.
(Oscillograph)

BORISEVICH, Ye.S.

Portable multichannel magnetoelectric oscillographs. Priboro-stroenie no.10:15-18 O '56. (MLRA 9:12)
(Oscillograph)

BORISEVICH, Ye. S. Doc Tech Sci -- (diss) "Magnetoelectric Oscillographs for Experimental Geophysical Research." Mos, 1957. 25 pp 22 cm. (Academy of Sciences USSR, Inst of Physics of the Earth im O. Yu. Shmidt), 110 copies (KL, 18-57, 95)

BORISEVICH, V.G. (Moscow)

"Magnetelectric Oscillograph for Geophysical Investigations."

paper presented at 1st Seismological Conference of the Geophysics Inst. Czecholovakian Acad. Sci., Liblice, 22 March 1957.

Bergakademi (Berlin) No. 4, 1957.

AUTHOR: Borisevich, Ye. S.

TITLE: Optical system for photographic recording of oscillations. (Opticheskaya sistema dlya fotozapisi kolebatel'nykh protsessov).

PERIODICAL: "Izvestiya Akademii Nauk, Seriya Geofizicheskaya" (Bulletin of the Ac.Sc., Geophysics Series), 1957, No.3, pp.331-340 (U.S.S.R.)

ABSTRACT: The main features of the system are its simplicity, the use of an economical source of light and the obtaining of a satisfactory quality of the recording. The optical system is based on the principles developed in the Institute of Physics of the Earth, Ac.Sc. and used in portable oscillographs. The principle consists of projecting onto a mobile photo-sensitive strip the light from a straight filament which is reflected from a galvanometer mirror, see Fig.1, p.331. The arrangement of the lenses is shown in Fig.2, p.332 and it is on the basis of that arrangement that the dimensions and distances of the intervening lenses are calculated as well as their focal distances and magnifications. The light spot which is projected onto the photo-sensitive strip is elongated in the direction of movement of the light beam for the purpose of obtaining as

Optical system for photographic recording of oscillations. (Cont.)

uniform a visibility as possible both when the light spot moves and when it is stationary. Formulae are derived which enable calculation of the parameters of the optical system and of the required exposure conditions and this permits selection of a suitable range of photo-sensitivity. The described system enables using very economical light sources and can also be used for the recording of various other oscillation phenomena.
There are 3 figures, 3 tables and 11 references, 9 of which are Slavic.

SUBMITTED: December 12, 1956.

ASSOCIATION: Ac.Sc. U.S.S.R. Institute of Physics of the Earth. (Akademiya Nauk SSSR Institut Fiziki Zemli)

AVAILABLE: Library of Congress
Card 2/2

Borisevich, Ye. S.

AUTHOR: Borisevich, Ye. S. 49-4-7/23

TITLE: High frequency moving coil galvanometers. (Vysokochastotnyye ramochnyye gal'vanometry).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1957, No.4, pp. 479-492 (USSR)

ABSTRACT: A new type of high frequency moving coil galvanometer with a continuous winding is described. It is used in magnetoelectric oscillographs. The galvanometer is shown in the third drawing of Fig.1. The frame (1) consists of a few turns of enamelled copper wire attached to two wires (2) and kept taut by the spring (4). A mirror (3) is attached to the frame. High sensitivity is achieved by having this system instead of a single loop system. However, it is difficult to obtain a high natural frequency for this system. On the one hand, it is necessary to have a very low moment of inertia (small dimensions and thin wire with a small number of turns) and on the other it is necessary to obtain a large restoring moment for the wires, i.e. they must be rigid and taut. Since these requirements are contradictory a compromise must be reached. A galvanometer investigated by the author together with M. L. Gol'dfarb is shown in Fig.1 (third

High frequency moving coil galvanometers. 49-4-7/23

drawing. A full theory of high frequency moving coil galvanometers with a continuous winding is given. The following three cases are considered: (1) damped vibrations, (2) aperiodic motion, (3) critical damping. A figure of merit m is defined and is given by:

$$m = I_{frame} / (I_{winding} + I_{mirror})$$

The magnitude of m falls for high frequency galvanometers and increases for low frequency galvanometers. Fig.10 shows m as a function of the natural frequency of the galvanometer (series ГБ-IV-Б). Graph A is for a cylindrical winding and graph B for plane winding. It is shown that the current sensitive frame of the high frequency galvanometer should be as narrow as possible. The damping of frame galvanometers was investigated by Ye. S. Kuranskiy and V. F. Katyushkin. A graph of kinematic viscosity of the damping liquid as a function of natural frequency of the galvanometer is given in Fig.11. This turns out to be linear. Calculations and experimental studies have shown that for galvanometers whose frames are made of copper wire the electro-magnetic damping is reasonable in

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High frequency moving coil galvanometers. 49-4-7/23

the range 300 to 400 c/s. Liquid damping is necessary at higher frequencies. For this purpose chemically neutral silicon liquid is used. The table on p.481 lists galvanometers of the type ГБ-IV. First column gives the number of the galvanometer, the second column the natural frequency in c/s, the third column the current constant (A/mm/m), the fourth column the current sensitivity (mm/m/mA).
There are 11 figures, 1 tables and 32 references, 21 of which are Slavic.

SUBMITTED: December 29, 1956.

ASSOCIATION: Ac.Sc. U.S.S.R. Institute of Physics of the Earth. (Akademiya Nauk SSSR Institut Fiziki Zemli).

AVAILABLE: Library of Congress.

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BORISEVICH, Ye.S.

Problems in designing mechanical parts of oscillographs. Izv.AN Arm.SSR, Ser.tekh.nauk 10 no.1:31-47 '57. (MIRA 10:10)

1. Institut fiziki Zemli AN SSSR.
(Oscillograph)

9(6)
AUTHOR: Borisevich, Ye.S., Doctor of Technical Sciences

S/119/60/000/02/013/015
B014/B014

TITLE: Domestic Magnetoelectric Oscilloscopes

PERIODICAL: Priborostroyeniye, 1960, Nr 2, pp 24-29 (USSR)

ABSTRACT: This article deals with the basic points of a lecture delivered by the author at the pervyy nauchno-tekhnicheskiy soveshchaniye po magnitoelektricheskim ostsillografam (First Scientific and Technical Conference on Magnetoelectric Oscilloscopes), which took place in Leningrad in March, 1958 and in a seminar on vibration technique held in Moscow in February, 1959. First, the many applications of magnetoelectric oscilloscopes are outlined, and their development in the Soviet Union since the thirties is briefly surveyed. In describing such universal oscilloscopes, whose types are compiled in table 1, the author deals with instruments manufactured by factories of the sovnarkhoz Moldavskoy SSR (Sovnarkhoz Moldavskaya SSR), Leningradskiy sovnarkhoz (Leningrad Sovnarkhoz), Moskovskiy oblastnyy sovnarkhoz (Moscow District Sovnarkhoz), Moskovskiy gorodskiy sovnarkhoz (Moscow Municipal Sovnarkhoz), Kishinevskiy

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zavod elektroizmeritel'nykh priborov (Kishinev Works for Electric Measuring Instruments) as well as by the Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth of the AS USSR) and the Moskovskiy mekhanicheskiy tekhnikum (Moscow Mechanical Technicum). Special oscilloscopes are produced by several of the afore-mentioned manufacturers and by the Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the AS USSR), the Vsesoyuznyy institut sel'skokhozyaystvennogo mashinostroyeniya (All-Union Institute for the Construction of Agricultural Machines), and the opytnyy zavod VISKhOM (Experimental Factory VISKhOM). The galvanometers used for oscilloscopes embrace loop galvanometers and coil galvanometers (Fig 6). The characteristic features of oscilloscope galvanometers manufactured in the Soviet Union are compiled in table 3. From tables 1 and 3 it may be seen that most oscilloscopes are provided with coil galvanometers. In conclusion, the author describes oscilloscopes producing written curves. Three methods for the production of written curves are considered to be applicable. The first method uses a light-sensitive paper with low daylight sensitivity. Here it

is necessary to make use of a mercury-vapor lamp as light source. The second method uses semiconductor paper. The oscilloscope illustrated in figure 7 was designed by the Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth of the AS USSR) in cooperation with the Nauchno-issledovatel'skiy Institut elektrografii (Scientific Research Institute of Electrography) of the sovnarkhoz Litovskoy SSR (Sovnarkhoz of the Litovskaya SSR). This instrument permits simultaneous recording of seven individual processes with a frequency of up to 25 cps. In 1960 it will be produced in series by the Kishinevskiy zavod elektroizmeritel'nykh priborov (Kishinev Works for Electric Measuring Instruments). The third method is based on the application of a light-sensitive paper chart that is glued into the instrument. The large-scale development of this branch in the Soviet Union is intended to be coordinated by the Vsesoyuznyy nauchno-issledovatel'skiy institut elektropriborostroyeniya (All-Union Scientific Research Institute for the Construction of Electric Instruments). There are 7 figures, 3 tables, and 18 Soviet references.

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3.9300 (1019,1327)

AUTHORS: Borisevich, Ye.S.; Zabelin, M.V.; Mosyagina, M.S.

TITLE: The OSB-IV seismic oscillograph

SOURCE: Akademiya nauk SSSR. Institut fiziki zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 12-18

TEXT: The authors describe the ОСБ IV (OSB-IV) six-channel seismic oscillograph, which is one of the latest models of its kind. Its predecessors include the ОПСС (OPSS), ОГБ-II (OGB-II), ОСБ-I (OSB-I) and other oscillographs developed in the USSR since 1950, when the first attempts at producing portable electromagnetic oscillographs were made on the initiative of Academician G.A. Gamburtsev. The compact and portable OSB-IV oscillograph is intended for earthquake recording under expedition conditions and at temporary seismic stations. It is equipped with a set of six ГБ-III-БС (GB-III-BS) or ГБ-III-Б (GB-III-B) galvanometers with a common permanent magnet. The galvanometers can also be assembled as separate magnetic systems with shunts. The recording is performed on a 200-mm wide and 600-mm long strip of photographic paper by means of light beams reflected from

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The OSB-IV seismic oscillograph

mirror galvanometers. The drum, bearing the photographic paper, is contained in a detachable lightproof cassette inside the oscillograph. Use of the reflecting mirror system enabled the length of the optical indicator to be cut down to 500 mm. The helical-line recording is done with the aid of a rotating mirror. The spacing of the light beams per revolution of the drum may be set from 1 - 5 mm. A spring mechanism ensures continuous operation of the oscillograph for 1.5, 6 and 3 hrs at peripheral speeds of the drum of v_1 = 60 mm/min, v_2 =120 mm/min and v_3 =240 mm/min, respectively. The oscillograph is also equipped with a flyball speed regulator with a critical number of rotations n_{reg} = 200 r.p.m. A flyball-pendulum regulator can also be used. Time markings are made from a contact chronometer by breaking the circuit of the galvanometers' luminaire. The luminaire has 2.5-v 0.2-a СЦ-79(STs-79) lamp. The power supply of the oscillograph is 0.5 a at 6 v DC. All units are contained in a duraluminum housing. The oscillograph has overall dimensions of 550 x 340 x 285 mm and weighs 23 kgf. It is simple in design, convenient to use, does not need a darkroom and consumes little electric power and photographic paper. Academician B.B. Golitsyn and A. Mazing are mentioned. There are 5 figures and 11 Soviet-bloc references.

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33513
S/619/61/000/019/003/019
D039/D112

3.9300 (1019,1327)

AUTHORS: Borisevich, Ye.S.; Kastorskiy, S.A.; Mosyagina, M.S.

TITLE: The OSB-V seismic oscillograph

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 19-24

TEXT: The article describes the new ОСБ-V (OSB-V) seismic oscillograph designed for the recording of earthquakes under expedition conditions and at temporary seismic stations. Its principle of operation is similar to that of the ОСБ-IV (OSB-IV) oscillograph described by Ye.S. Borisevich, M.V. Zabelina and M.S. Mosyagina in the above source, pp 12-18. Test models of the OSB-V device have been made at the SKB of the Institut fiziki Zemli (Institute of Physics of the Earth), and small series production of them is to be organized at the Moskovskiy radiomekhanicheskiy tekhnikum (Moscow Radiomechanical Tekhnikum). Unlike the OSB-IV oscillograph, the lightproof drum cassette of the OSB-V is mounted on the outer housing. It has provision for an attachment consisting of three ГК - VII (GK-VII) or М21/2 (M 21/2) galvanometers and luminaires. The OSB-V oscillograph

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The OSB-V seismic oscillograph

is 690 x 435 x 400 mm in size and weighs 34 kgf without the drum cassette and 45 kgf with it. It is equipped with six ГБ-III-БС (GB-III-BS) galvanometers assembled in two sets with common permanent magnets. Normal ГБ-III (GB-III), or ГБ-IV (GB-IV) galvanometers can also be used. Recording is performed on a 280-mm wide and 900-mm long strip of photographic paper fixed on a drum rotating at peripheral speeds of 7.5, 15 and 30 mm/min, or 60, 120 and 240 mm/min. Switching from one speed to another is effected by gear systems and regulators. The pitch of the helical line of the recording can be set from 1 to 5 mm per revolution of the drum. A spring mechanism with a pendulum or flyball regulator and a Г-31 (G-31) hysteresis synchro motor actuate the oscillograph. The spring mechanism operates 8 hrs with the flyball regulator and 12 hrs with the pendulum regulator without rewinding. The length of the optical indicator and the methods of applying the time markings and regulating the filament of the luminaire lamp are the same as for the OSB-IV oscillograph. The optical systems of both devices are also similar. The electrical circuit of the OSB-V consists of a feed source, a luminaire with

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The OSB-V seismic oscillograph

an СЦ-79 (STs-79), or СЦ-78 (STs-78) lamp, a unit for automatic time marking, an automatic photoelectronic filament overheating device, a high-voltage generator for feeding the photoresist[illegible] unit for checking the feed voltage. A separate description is given of the kinematic system. [illegible] Soviet-bloc references.

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3.9300 (1019, 1327)

AUTHORS: Borisevich, Ye.S.; Zhilevich, I.I.; Aronov, L.Ye., Arshvila, S.V.; Zabelin, M.V.

TITLE: The SEO-I seismic electrographic oscillograph

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 44-51

TEXT: The authors describe the SEO-I (SEO-I) seismic electrographic oscillograph for automatically recording seismic processes. It does not use the helical-line recording method with its intersecting recording lines, but produces a clear recording of the seismic process and the immediately preceding period (by means of a memory) only. The recording is suitable for both visual analysis and automatic mechanical processing, the principles of which are now being developed. The device can be used at either permanent or mobile seismic stations. Its mode of operation is as follows: Light from a luminaire is reflected by a mirror on to the windows of three galvanometers, is reflected back by a small mirror attached to the measuring system of the galvanometer on to the first mirror, and reflected

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The SEO-I seismic .....

by other mirrors on to an endless moving band of photosemiconductive paper. The paper receives an electrostatic charge from a high-voltage generator, which makes it light-sensitive. The light rays from the galvanometers leave invisible lines free of charge on the paper. Under normal conditions, the electrostatic charge and the lines are erased when they pass an illuminated peep-hole; if seismic vibrations cause certain deviations of the light rays, an indicating photorelay actuates a developing mechanism which makes the recording visible. After a complete revolution, the device stops and the paper tape must be replaced. Other technical data are as follows: The oscillograph gives clear recordings of seismic processes with a frequency of up to 5 cycles per second at an amplitude of 15 mm. Three Г5 -III-5С (GB-III-BS) shuntable galvanometers with individual magnetic systems are used. Recording is made on an endless paper tape 120 mm wide and 1.2 m long. The tape is transported by a Г-31 (G-31) synchronous hysteresis motor (n=3000 rpm, N=5 w); the tape speed is automatically reduced after the start of recording, thus extending the recording period; Length of the optical indicator is 300 mm; Time marks are applied by periodically switching off the galvanometer's luminaire by a contact chronometer; The device is fed from a 127 or 220 v a.c. network;

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The SEO-I seismic .....

and its current consumption does not exceed 1 a; Its dimensions are 265 x 240 x 660 mm, and its weight 29 kgf. Its optical, kinetic and electrical systems are described and illustrated. It was designed by Ye.S. Borisevich and I.I. Zhilevich (Author's Certificate no. 126[illegible]6); besides the authors of this article, designers B.N. Pevzner and M.K. Dubrovina and team-leader-mechanic F.F. [illegible]enkov took part in its construction. There are 5 figures and 7 Soviet-bloc references.

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33518
S/619/61/000/019/008/019
D039/D112

3.9300 (1019, 1327)

AUTHORS: Borisevich, Ye.S.; Gol'dfarb, M.L.; Mosyagina, M.S.

TITLE: A recording instrument with a luminescent memory

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 57-63

TEXT: The authors describe a seismic recorder with a luminescent memory, in which light beams from ГБ-III (GB-III) mirror galvanometers installed in a standard Н-700 (ПОБ-14М) (N-700 [POB-14M]) oscillograph are reflected on to moving paper tape coated with a luminophor. Normally, the recording on the excited luminophor persists for a certain time and then fades away without a trace; however, if the deviation of the light beam exceeds a certain level due to seismic activity, then a photorelay actuates an electromagnet which presses a photographic tape against the tape coated with the luminophor and thus produces a contact print of the recording. The duration of the memory, which is determined by the time taken by the actual recording to reach the point of contact with the photographic tape, can be varied from 1 minute to 4 secs. The recorder has all the advantages of

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A recording instrument .....

recorders with magnetic and electrostatic memories described by A.N. Vetchinkin and V.B. Preobrazhenskiy, and Ye.S. Borisevich, I.I. Zhilevich et. al. on pp 52-56 and 44-51 of the above source, and yet is simpler in design and easier to attend. The frequency range of the recorded vibrations is up to 2.5 cps at an amplitude of 10 mm. The luminophor-coated tape is 110 mm wide and 1200 mm long. The width of the photographic tape is 120 mm and its length 12 m. The speeds of the luminescent and photographic tapes are 30, 120, and 480 mm/min. An annunciator clock is used for the time markings. The luminaire of the galvanometers has a type СЦ-78 (STs-78) lamp (7v, 0.5 a). The oscillograph and the recorder are fed by a set of 27 v storage-batteries or a.c. network current and consume not more than 4 a. The outer dimensions of the recorder are 300 x 260 x 520 mm and its weight 17.6 kgf. The electrical circuit of the recorder consists basically of an automatic photoelectronic device and a solenoid for actuating the photographic-tape-transport mechanism. The No. 78 zinc-sulfide luminophor developed by the chemical industry and the Leningradskiy institut prikladnoy khimii (Leningrad Institute of Applied Chemistry) was used. However, its excessive

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.. recording instrument ....

afterglow period caused overlapping of the recordings at tape speeds of 1.5 and 480 mm/min, and it proved to be too coarse-grained (the width of the recording lines reached 1 mm), so that a better luminophor must be developed. However, laboratory tests of the recorder were positive; it can record seismic processes with a frequency up to 5 cps at 2A =5 mm. There are 4 figures and 6 Soviet-bloc references.

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S/519/61/000/019/010/019
D039/D112

AUTHORS: Borisevich, Ye.S.; Katyushkin, V.F.

TITLE: GB-type galvanometers for seismic oscillographs

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 69-72

TEXT: The authors discuss the characteristics of the ГБ (GB) series of galvanometers, developed at the Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth, AS USSR) a few years ago, and their use in magnetoelectric oscillographs. This series includes the ГБ-III (GB-III), ГБ-IV-М (GB-IV-M) and ГБ-IV (GB-IV) galvanometers, all of them employing the electromagnetic mode of damping. The GB-IV galvanometers are now produced by the Kishinevskiy zavod elektroizmeritel'nykh priborov (Kishinev Electrical Measuring Instruments Plant) and the Moskovskiy radiomekhanicheskiy tekhnikum (Moscow Radiomechanical Tekhnikum). Small numbers of GB-III galvanometers are being turned out at the SKB of the Institute of Physics of the Earth, AS USSR. The GB-III and GB-IV-M galvanometers are interchangeable with the ГЭМЗ-46 (GEMZ-46) galvanometers used in the ОТ-24 (OT-24) and ОЭ-24

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GB-type galvanometers for .....

(OS-24) ~~censimetric~~ and seismic prospecting oscillographs. The GB-III galvanometers have been used in conjunction with the ВЭГИК (VEGIK) vibrographs for recording local earthquakes, industrial explosions and the vibrations of structures. In 1959, the Institute of Physics of the Earth, AS USSR, organized the production of the ГБ-III-Б (GB-III-B) galvanometers, having good integrating properties due to a relatively high critical resistance. This high critical resistance, however, hampers their application with the СВК-М (SVK-M) stationary seismographs, but can be reduced by over 6 times by removing the Armco iron core from an insert in the frame of the galvanometer, thus reducing the induction in the working gap by over 2.5 times, a fact discovered by the Tadzhikskaya kompleksnaya seysmologicheskaya ekspeditsiya (Tadzhik Comprehensive Seismological Expedition). This discovery led to the GB-III galvanometer being used as a basis for the new ГБ-III-БС (GB-III-BS) seismic galvanometers with parameters similar to those of the ГК-VII (GK-VII) stationary galvanometers. The GB-III-B and GB-III-BS galvanometers are small in size and are thus suitable for oscillographs. The ГБ-III-БС0,8 (GB-III-BS-0,8) galvanometer has the parameters closest to those of the GK-VII, but is 15 mm longer than all other galvanometers of the GB-III-BS and GB-III-B series. As the GB-IV-M

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S/049/61/000/019/010/019
D055/D112

GB-type galvanometers for ....

galvanometers with a natural frequency of not less than 20 cps proved unsuitable for seismic recording, the ГБ-IV-С (GB-IV-S) low-frequency galvanometers were developed in the second half of 1960. The development of the GB-III-BS and GB-IV-S low-frequency galvanometers made it possible to build special magnetoelectric oscillographs suitable for use at temporary and mobile seismic stations. The technical data of all galvanometers discussed are given in tables. There are 2 figures, 3 tables and 7 Soviet-bloc references.

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S/619/61/000/019/011/019
D039/D112

AUTHORS: Borisevich, Ye.S.; Gol'dfarb, M.L.; Kastorskiy, S.A.; Preobrazhenskiy, V.B.

TITLE: The PSERP-I seismic pen-recorder

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 73-77

TEXT: The authors describe the ПСЕРП-I (PSERP-I) seismic pen recorder for producing a continuous visible recording of seismic oscillations. The recording is made on an endless paper tape by means of three exchangeable galvanometers, equipped with ink pens or heated pens. In the latter case, a tape with a low-melting coating is used. Both the paper tape and the pen-recording galvanometers move simultaneously, thus producing a helical-line recording. The recorder can record seismic vibrations with a frequency of up to 3 cps at a double amplitude of up to 20 mm. The recording is made along an arc and the thickness of the recording lines is 0.5 mm. All the pen-recording galvanometers are assembled into independent magnetic systems with shunts, and are mounted on a common moving carriage. The paper tape is 304-mm wide and 900-mm long and is transported at speeds of 30, 60 and 120 mm/sec. The carriage moves at speeds of 1.72 and 3.44 mm per revolution of the tape. The tape and the carriage are moved by a synchro motor or a spring mechanism wound up every 12 hrs. The instrument is 460 x 470 x 290 mm in size and weighs 33 kgf. Its kinematic system and electrical circuit are described. The PSERP-I can be used at permanent and temporary seismic stations. It has successfully passed tests and its industrial production is now being mastered at the Kishinevskiy zavod elektroizmeritel'nykh priborov (Kishinev Electrical Measuring Instruments Plant). There are 4 figures and 1 table.

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Card 2/2

S/019/61/000/019/013/019
D039/D112

AUTHORS: Borisevich, Ye.S.; Gol'dfarb, M.L.; Preobrazhenskiy, V.B.

TITLE: Exchangeable pen-recording galvanometers

SOURCE: Akademiya nauk SSSR. Institut fiziki Zemli. Trudy, no. 19 (186). Moscow, 1961, Seysmicheskiye pribory, 81-85

TEXT: The authors describe two types of pen-recording galvanometers: the ГПЧ (GPCh) galvanometer for ink recording on a paper tape, and the ГПТ (GPT) galvanometer for recording by means of a heated pen on paper coated with a low-melting substance. Both galvanometers were developed at the Institut fiziki Zemli AN SSSR (Institute of Physics of the Earth, AS USSR) and are used in seismic instruments for producing directly visible recordings. As regards design they are similar to the ГБ (GB) mirror galvanometers [Abstracter's note: see pp 73-77 and 78-80 of the above source]. The GPCh galvanometer employs a new method of feeding ink to the pen. The ink is fed through the hollow upper frame-suspension brace connected with the pen by means of a flexible vinyl chloride tube. The pen itself is a thin glass capillary tube one of whose ends is bent downward. This method vastly improves the parameters of the galvanometers, but due to the compar-

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B/619/61/000/019/013/019
B059/B112

Exchangeable pen-recording galvanometers

rigidity of the hollow brace, is not very suitable for galvanometers whose natural oscillation frequency is less than 5 cps. The pressure of the pen against the paper can be smoothly regulated, since the pen is fixed to the moving system by a thin flat spring, enabling it to move vertically together with the paper tape. At the same time, the pen is fixed sufficiently rigidly in the plane of its vibrations. The pen for the GPT galvanometer is a glass capillary with a fine nichrome wire passing through it. At one end of the pen, the wire is bent back in the form of a rhombus. The other end of the wire is attached by БФ-2 (BF-2) glue to the outside of the capillary tube. In order to heat only the tip of the pen, the nichrome wire is coated with copper, the tip of the pen being left uncoated. The GPT galvanometer uses only 0.8 w when recording vibrations of 10 cps at a double amplitude 2A = 30 mm. As regards design, parameters, characteristics and calculation, both galvanometers are similar. The basic calculation formulae are presented. Both galvanometers are now being produced at the SKB of the Institute of Physics of the Earth, AS USSR, and are being used in seismic recording instruments turned out experimentally at the Kishinevskiy zavod elektroizmeritel'nykh priborov (Kishinev Electrical Measuring Instruments Plant). There are 2 figures, 1 table and 6 Soviet-bloc references.

Card 2/2

BORISEVICH, Ye.S., doktor tekhn.nauk

Light-beam recording oscillographs. Vest. AN SSSR 32 no.10:68-72 O '62. (MIRA 15:10)

(Oscillograph)

BORISEVICH, Ye. S.

New devices with photographic and directly visible recording for the registration of seismic processes. Biul. Sov. po seism. no.14:28-38 '63. (MIRA 16:4)

(Seismometers)

BORISEVICH, Ye.S.; KIRNOS, D.P.

"Instruments for the measurement and recording of vibrations" by T.A.Gevondian, L.T.Kiselev. Reviewed by E.S.Borisevich D.P.Kirnos. Priborostroenie no.2:32 F '63. (MIRA 16:5)
(Vibration—Measurement) (Gevondian, T.A.) (Kiselev, L.T.)

BORISEVICH, Ye.S., prof.

Our visit to U.S. seismologists. Vest. AN SSSR 33 no.10:75-79 O '63. (MIRA 16:11)

BORISEVICH, Ye.S.; KASTORSKIY, S.A.; MOSYAGINA, M.S.

Seismic type OSB-VI oscillograph. Trudy Inst. fiz. Zem. no.26: 93-97 '63. (MIRA 16:11)

L 5163-66 EWT(1)/EWA(h) GW

ACC NR: AT6000084 SOURCE CODE: UR/2619/64/000/035/0054/0060

AUTHOR: Borisovich, Ye. S.; Preobrazhenskiy, V. B.; Stepanov, V. V

ORG: Institute of Physics of the Earth im. O.Yu. Shmidt, AN SSSR (Institut fiziki zemli AN SSSR)

TITLE: PP-6 six-channel pen recorder

SOURCE: AN SSSR. Institut fiziki zemli. Trudy, no. 35, 1964, 54-60

TOPIC TAGS: seismologic instrument, seismography, galvanometer

ABSTRACT: The PP-6 is a hot-pen recorder. Six interchangeable galvanometers of the GPT-11 type with individual magnet systems (natural frequency of 10 cps) are used in the PP-6 recorder. The paper rolls are 50 m long and 300 mm wide and move uniformly at speeds of 0.25, 0.5, 1, 2, and 4 mm/sec. By changing gears, speeds of 4, 8, 16, 32, and 64 mm/sec can be achieved (photographs of devices and schematics for principal design, kinematic circuit, electrical circuit, and GPT-II galvanometer are shown). Orig. art. has: 6 figures. [FSB: v. 1, no. 5]

SUB CODE: ES, EE / SUBM DATE: none / ORIG REF: 001

Card 1/1

L 5158-66 EWT(l)/EEC(k)-2/EWA(h) GW

ACC NR: AT6000086 SOURCE CODE: UR/2619/65/000/035/0065/0069

AUTHOR: Borisovich, Yo. S.; Bogushin, G. K. 43 40 B+1

ORG: Institute of Physics of the Earth im. O.Yu. Shmidt, AN SSSR (Institut fiziki zemli AN SSSR)

TITLE: Seismic electrographic oscillograph of the II-001 type (SEO)

SOURCE: AN SSSR. Institut fiziki zemli. Trudy, no. 35, 1964, 65-69

TOPIC TAGS: seismologic instrument, earthquake, seismography, oscillograph, galvanometer, seismic wave

ABSTRACT: This apparatus is designed for the automatic recording of such random earthquake-type processes as explosions, emergencies, etc. In contrast to the SEO-1 used previously, the recording tape is attached to a uniformly rotating drum. The instrument has three channels, recording in a frequency range from 0 to 3 cps with a double amplitude up to 30 mm. The galvanometer is of the GB-III-BS-1 type with individual magnet systems. GB-III and GB-IV galvanometers can also be used. Records are made on semiconducting paper tape 120 mm wide and 1.1 m long, at rates of 30, 60, 120, and 240 mm/min. This oscillograph is recommended for use in measuring seismic wave periods in the 0.1—1.5-sec range with high-mag-

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